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Exploring Australian Students' Spelling Skills

By Dr Tessa Daffern

Spelling Skills Report 2021

OXFORD

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FOREWORD

Joanna Lake

Senior Publisher

Spelling is a core component of successful writing and therefore the communication of ideas, learning and opinions. At school, perceptions of students' writing can often be influenced by the spelling skill shown in writing samples. Supporting students in the development of spelling skills can play a significant role in increasing their confidence in reading, writing and performance across all subject areas.

Australian students' spelling skills

This research paper presents analysis of national trends in Australian students' spelling based on NAPLAN results and spelling error analysis data obtained from words written by 2436 NSW students in Years 1 and 2 and from 1198 ACT students in Years 3 to 6. It focuses on the importance of developing phonological, orthographic and morphological spelling skills concurrently from the early years of schooling and provides insights across the early, middle and upper primary years. The paper explores the results of current Australian findings and the potential implications for the teaching of spelling, in order to support teachers in applying the latest spelling research in the classroom.

Oxford Children's Language Australia

Oxford Children's Language Australia supports language research initiatives, shares insights with the education community, and supports teachers in developing students' language and literacy development.

ABOUT THE AUTHOR

Dr Tessa Daffern

Dr Tessa Daffern has contributed to education in many capacities for over twenty years: as a classroom teacher in schools, a teaching and learning specialist, a literacy coordinator, an academic, and an educational consultant. Tessa is currently Director and Principal Education Consultant at Literacy Education Solutions and has previously held academic positions at the University of Wollongong, the University of Canberra and Charles Sturt University. Tessa's PhD examined the teaching and learning of spelling and writing in Australian school contexts and involved almost 1400 students across 17 schools. Tessa is also the author of *Oxford Spelling*, a series based on the research evidence and theoretical approach presented in this paper.

IMPORTANCE OF SPELLING

Proficient spelling is a fundamental literacy trait. In standard English, spelling requires awareness of speech sounds (phonology) and knowledge of how to visually represent those sounds into meaningful units (morphology) using conventional alphabetic letter patterns (orthography). A large body of research shows that spelling ability correlates with overall reading and writing outcomes (Daffern et al., 2017; Ehri, 2000; Ehri & Wilce, 1987; Joshi et al., 2008; Sumner et al., 2016). Contributing to this correlation is the fact that word recognition and spelling ability utilise the same underlying lexical representations (Perfetti & Hart, 2002). If spelling is robust, attention can be devoted to other cognitive resources required for higher-level reading (such as inferencing) and writing (such as selecting precise vocabulary). Students who struggle with spelling generally write less and use a more limited and imprecise vocabulary than students with better spelling skills (Sumner et al., 2016). Proficiency in spelling has a highly consistent longitudinal influence on written composition across multiple years of schooling (Hayes & Berninger, 2014).

NATIONAL TRENDS IN SPELLING PERFORMANCE

Longitudinal performance data from six cohorts of students at four time points (Year 3, Year 5, Year 7 and Year 9) have been tracked using publicly available NAPLAN Spelling data (Australian Curriculum, Assessment and Reporting Authority (ACARA), 2021b). Figure 1 presents longitudinal analysis for six cohorts, beginning with the first cohort starting Year 3 in 2008. It shows the percentage of students who achieved at or above the minimum national benchmark for NAPLAN Spelling and how the percentages have changed over time for the six cohorts. These observed trends need to be treated with a degree of caution because the data does not account for any changes that may have occurred in participation rates at each testing period. Nonetheless, they offer some broad insights. An overall decline is observed in the percentage of students achieving at or above the minimum national benchmark in NAPLAN Spelling as each cohort proceeds from Year 3 to Year 9. However, some signs of improvements can be observed at certain testing periods. For example, when the Year 3 cohorts of 2010 and 2011 (Cohorts 3 and 4) progressed to Year 5, an increased proportion of students achieved at or above the minimum national benchmark. A similar trend is observed for the Year 3 cohorts of 2008 and 2009 (Cohorts 1 and 2) when they progressed from Year 5 to Year 7. Improved teaching of spelling may have contributed to any observed increase in performance for a cohort over time. On the contrary, a notable decline, consistent across all six cohorts, is observed in the percentage of students achieving at or above the minimum national benchmark between Year 7 and Year 9. The largest difference in this decline is observed in Cohort 5, which saw a 3.6 per cent decline in the percentage of students achieving the minimum benchmark from the testing period in Year 3 to the testing period in Year 9.

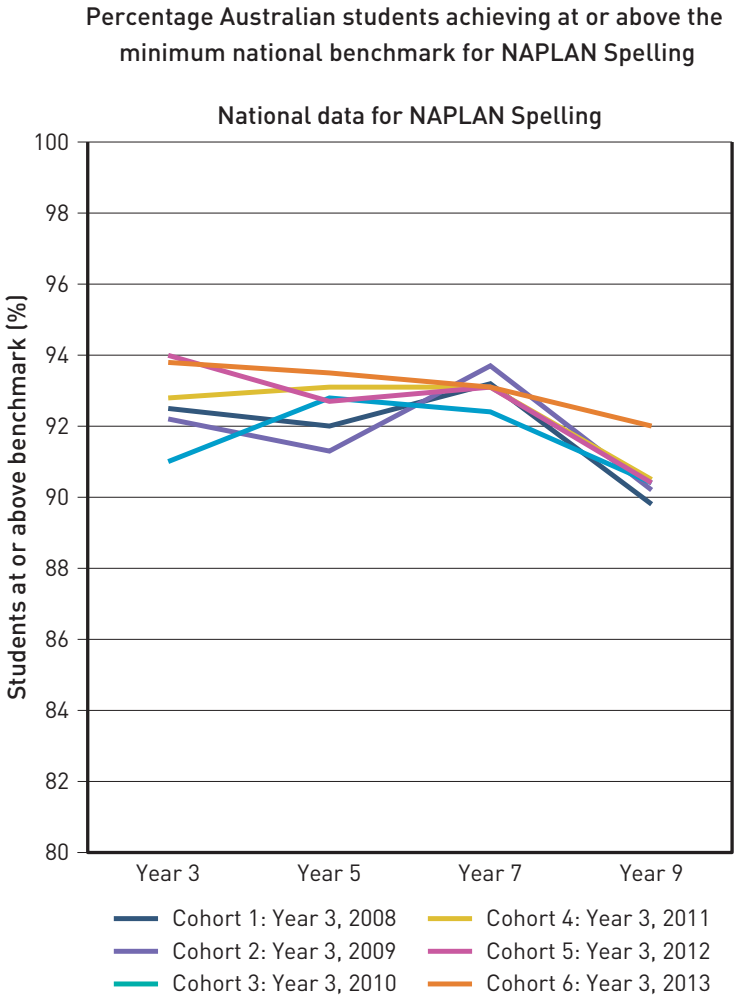


Figure 1. Percentages of Australian students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

Similar patterns of declining trends have been observed in students' performance in the NAPLAN Writing test (Walker & Bayetto, 2021). Resonating with research on the cognitive processes involved in writing (Hayes & Berninger, 2014), the observed declines in NAPLAN Spelling, particularly in the secondary school years, could be contributing to the parallel declining performance trends observed in NAPLAN Writing data. According to the Simple View of Writing, 'written expression problems may stem from an inability to spell words needed to express one's ideas' (Berninger et al., 2002, p. 291).

Indeed, correlational research has found that performance in NAPLAN Spelling predicts success with the NAPLAN Writing test, more so than grammar and punctuation skills (Daffern et al., 2017).

State-level trends in spelling performance

Figures 2 to 9 provide a breakdown of the longitudinal NAPLAN Spelling data at the individual state and territory levels. Results show the percentage of students achieving at or above the minimum national benchmark for spelling for each cohort. Interpreting these results requires a degree of caution as they do not account for potential participation changes over time, including attrition or possible relocation of some students to different states or territories.

As can be seen in Figure 4, Queensland (Qld) has demonstrated the most consistent longitudinal improvement across multiple cohorts. Western Australia (WA) has also experienced some signs of improvement, albeit to a lesser extent (Figure 5).

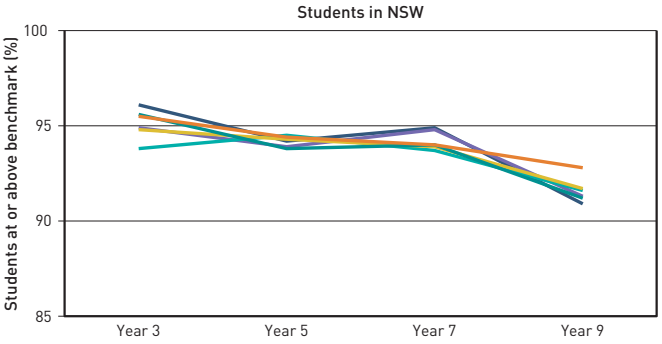


Figure 2. Percentages of NSW students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

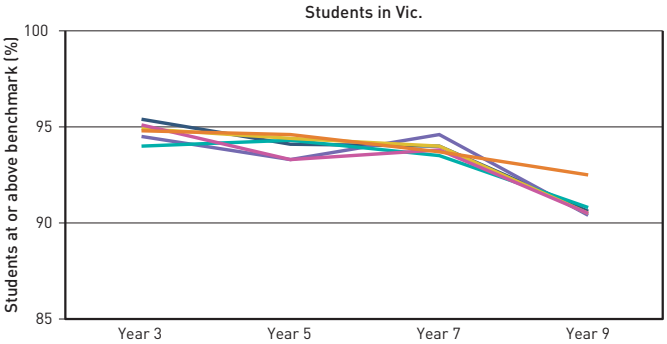


Figure 3. Percentages of Vic. students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

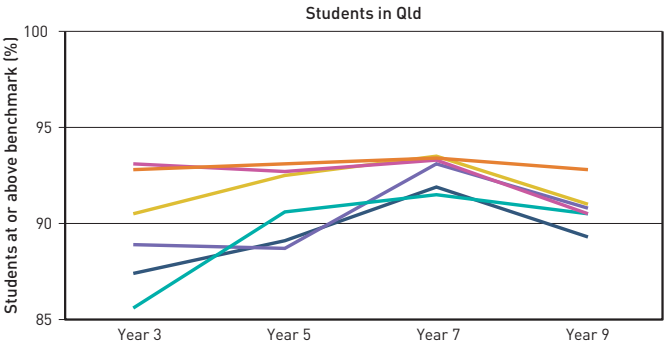


Figure 4. Percentages of Qld students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

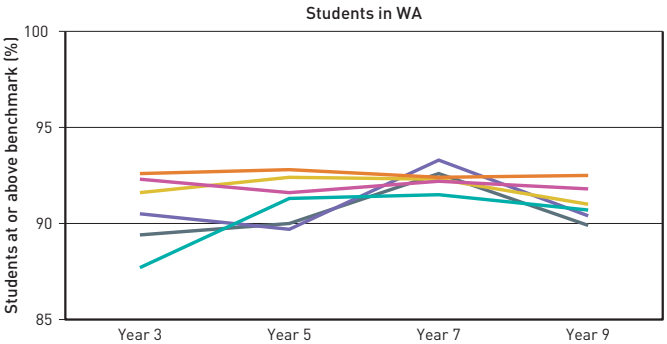


Figure 5. Percentages of WA students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

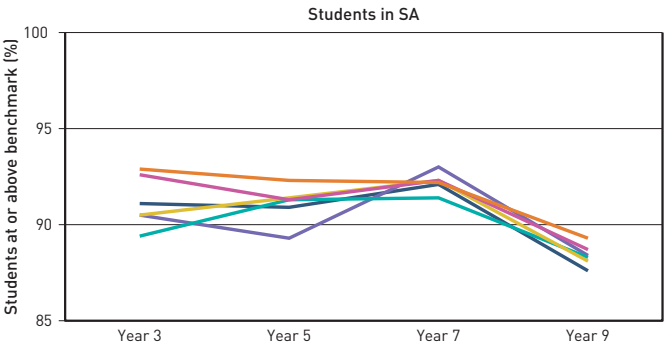


Figure 6. Percentages of SA students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

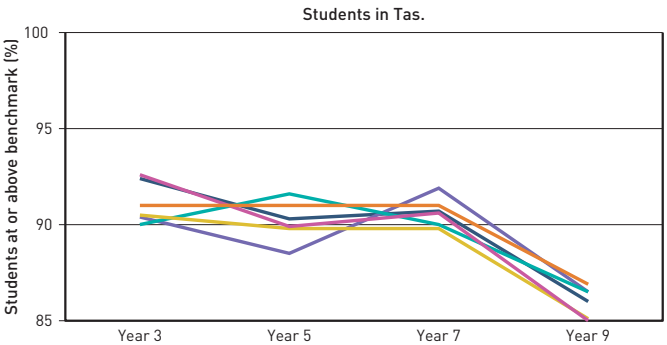


Figure 7. Percentages of Tas. students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

Cohort 1: Year 3, 2008
Cohort 2: Year 3, 2009
Cohort 3: Year 3, 2010
Cohort 4: Year 3, 2011
Cohort 5: Year 3, 2012
Cohort 6: Year 3, 2013

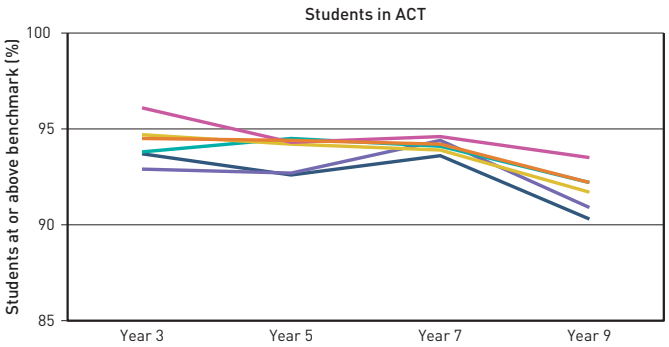


Figure 8. Percentages of ACT students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

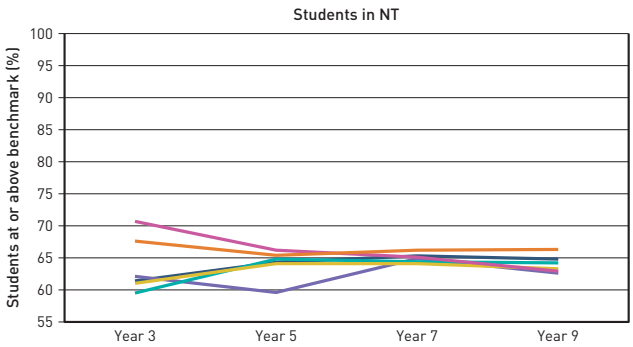


Figure 9. Percentages of NT students achieving at or above the minimum national benchmark in NAPLAN Spelling for six cohorts spanning four testing periods

However, across all states and territories, a consistent and substantive decline in the proportion of students meeting the minimum benchmark is evident from Year 7 to Year 9.

The greatest degree of stability over time across multiple cohorts was observed in the Northern Territory (NT) (Figure 9). Nonetheless, it should be noted that a substantially larger proportion of students in the NT have not been achieving the minimum benchmark compared to students from the other states and territories. For example, between 62.9 and 64.8 per cent of Year 9 students in the NT have been performing above the minimum national benchmark for spelling since NAPLAN commenced in 2008. Moreover, a consistently stark decline over time, from Year 3 to Year 9, is evident in Tasmania (Tas.) (Figure 7), especially between Year 7 and Year 9.

Additional trends in spelling performance

NAPLAN Spelling data have also revealed noticeable performance differences based on Indigenous status, gender and geolocation. To illustrate national trends, Figures 10 to 12 refer to data obtained from the 2019 NAPLAN Spelling results for students in Year 3, Year 5, Year 7 and Year 9 (ACARA, 2021b).

As can be seen in Figure 10, more non-Indigenous students than Indigenous students achieved at or above the minimum national benchmark for NAPLAN Spelling across the four cohorts. Figure 11 shows that more girls than boys achieved at or above the minimum national benchmark for NAPLAN Spelling across the four cohorts. Figure 12 indicates that a considerably lower proportion of students living in remote and very remote locations across Australia achieved at or above the minimum national benchmark for NAPLAN Spelling than students living in major cities and regional areas. This divide is even more pronounced in Year 7 and Year 9.

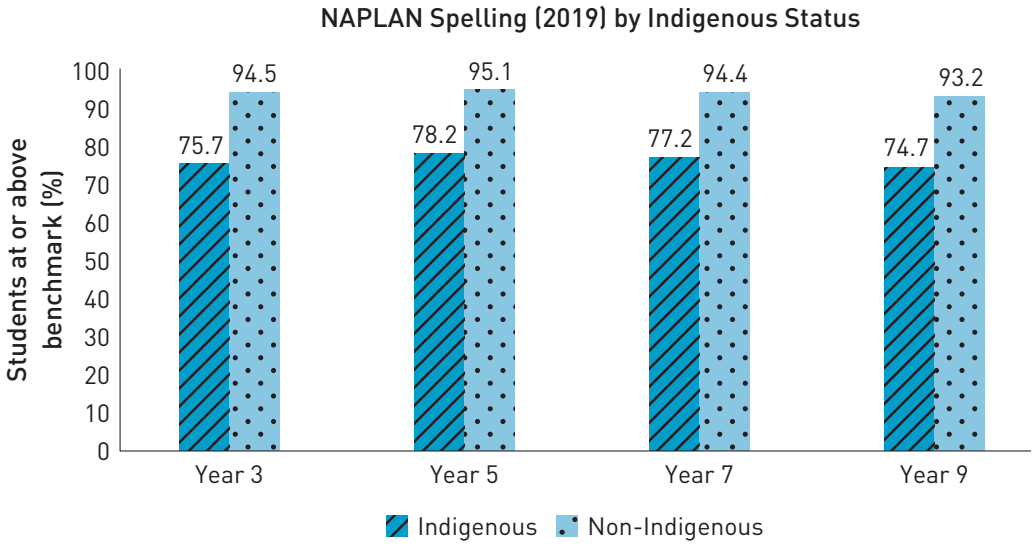


Figure 10. Percentage of Indigenous and non-Indigenous students achieving at or above the national minimum benchmark in 2019 NAPLAN Spelling

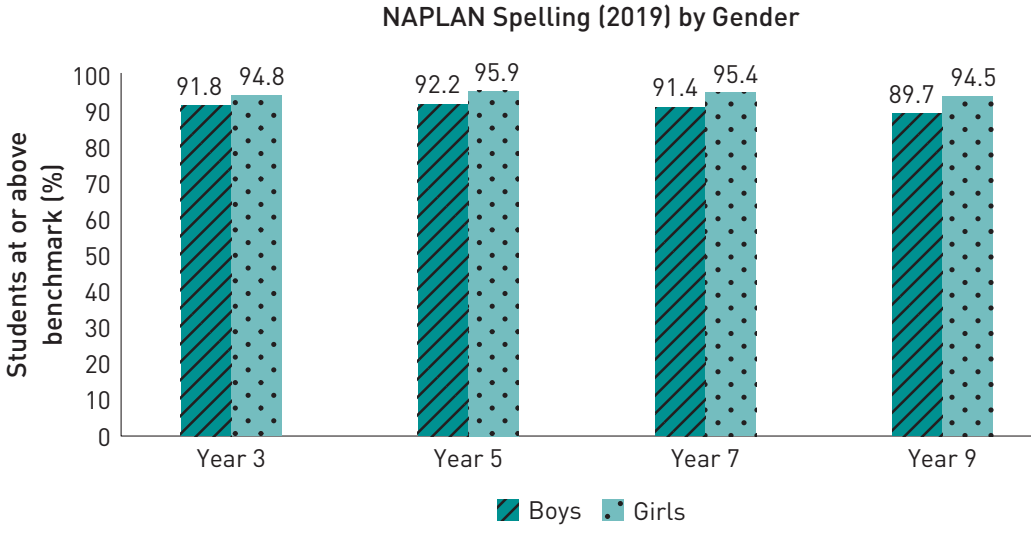


Figure 11. Percentage of boys and girls achieving at or above the national minimum benchmark in 2019 NAPLAN Spelling

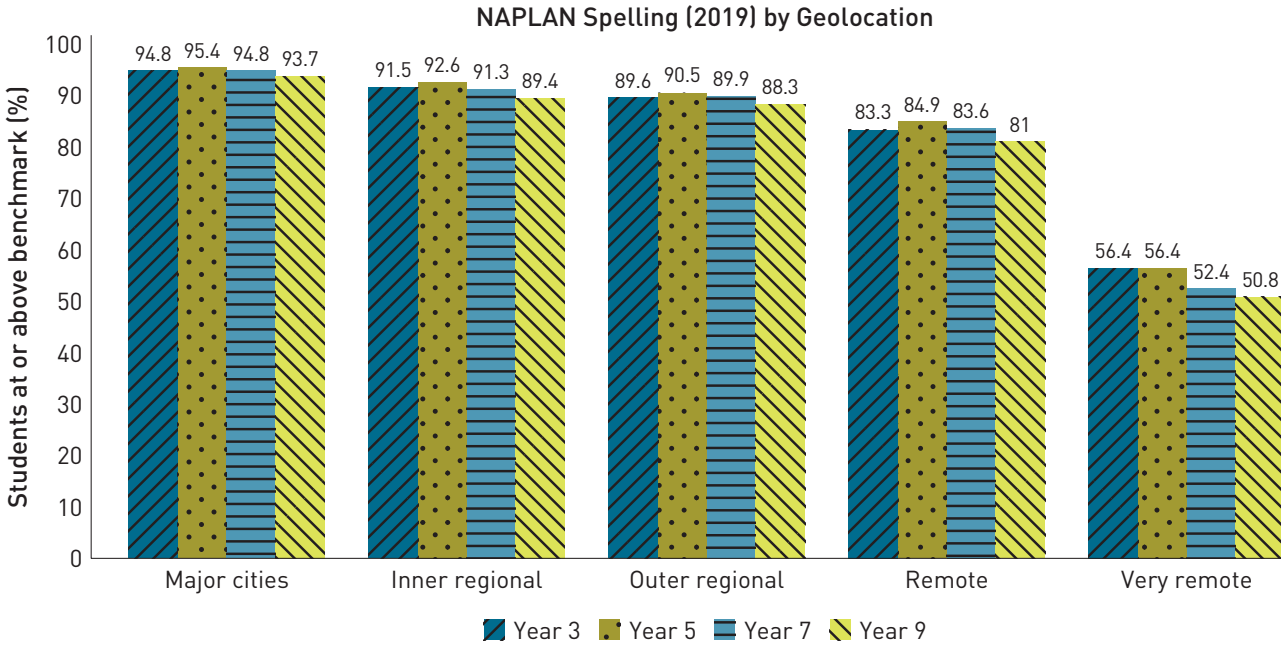


Figure 12. Percentage of students achieving at or above the national minimum benchmark in 2019 NAPLAN Spelling by geolocation

The longitudinal achievement trends outlined above do not provide causal evidence. Possible reasons for the observed declines in achievement over time may relate to behavioural factors such as student motivation and engagement in relation to national testing regimes and/or changes to instructional priorities and approaches for the teaching of spelling, particularly as students proceed from the primary school years to the secondary school years.

LEARNING TO SPELL

Learning to spell follows a gradual yet complex trajectory, shaped largely by instructional approaches and priorities. Grounded in a large body of research, Triple Word Form Theory offers a framework for understanding how children learn to spell (see, for example, Bahr, 2015; Berninger et al., 2010; Daffern, 2017; Daffern & Ramful, 2020; Garcia et al., 2010; Richards et al., 2006; Robinson-Kooi & Hammond, 2020a; Varnhagen et al., 1997).

According to this theory, three interdependent word-formation processes underpin this core aspect of language learning:

- the phonological word form
- the orthographic word form
- the morphological word form.

Students who demonstrate robust phonological word-formation processes can mentally manipulate spoken words, syllables and phonemes (the smallest speech sounds in spoken language). This is important for accurate and efficient spelling. Orthographic processes involve knowing the plausible graphemes (a letter or group of letters that represent a phoneme) and understanding their positional constraints (knowledge that the spelling of some phonemes is dependent on their position within a word). Morphological processing requires the ability to 'reflect, analyse and manipulate the morphemic (meaning-based) elements in words' (Daffern, 2021b, p. 5). This includes knowing the function of morphemes and how they may connect to produce different words.

Students are capable of learning to combine phonological, orthographic and morphological processes from the early years of learning to spell, if this is what they are taught (Critten et al., 2016; Daffern, 2021a; Devonshire & Fluck, 2010; Treiman & Kessler, 2014). While qualitative research has demonstrated that students who struggle with spelling can find writing and reading tasks very challenging and stressful (Daffern & Mackenzie, 2020), empirical evidence indicates that students who do not perform well in spelling tend to perform poorly in compositional writing (Daffern et al., 2017). Large-scale longitudinal and cross-sectional data can provide some valuable insights for teachers; however, teachers also require access to other forms of assessment that can guide their instructional planning. Knowing the specific components of spelling that individual students require instructional support in is fundamental to improving students' literacy outcomes.

Insights from early years

In 2020, a professional learning initiative involving 290 educators and their students across 72 public primary schools in NSW took place. The professional learning focused on assessment-informed practices for teaching spelling in the early years. As part of this initiative, the spelling skills of 2436 students in Year 1 and Year 2 were analysed using the *Components of Spelling Test: Early Years* (CoSTEY) (Daffern, 2021a). The CoSTEY is a dictation task comprising 174 words; it utilises an error analysis technique to identify specific linguistic skills involved in spelling. Aligning with Triple Word Form Theory, this measure includes three subscales:

- the Phonological Component
- the Orthographic Component
- the Morphological Component.

The CoSTEY provides scope for a systematic error analysis of 255 linguistic items across the three subscales (components).

For the purposes of the professional learning initiative, some of the participating students were invited to complete one component of the CoSTEY while other students completed all items across all three components of the test. As one of several outcomes of the initiative, reliability analyses using the CoSTEY data were conducted using Cronbach's alpha, and normed references were also developed for the CoSTEY (Daffern, 2021a). Internal consistency results provide evidence that the CoSTEY is a reliable measure of spelling ability: Cronbach's alphas are:

- .96 (Phonological Component)
- .97 (Orthographic Component)
- .95 (Morphological Component).

The results presented in Figure 13 draw on data from the students in Years 1 and 2 who completed all three components of the CoSTEY. As expected, the mean accuracy scores for all three subscales are higher in Year 2 than in Year 1. It is worth noting that phonological applications in spelling appear considerably stronger than orthographic and morphological applications among the participating students in Year 1 and in Year 2.

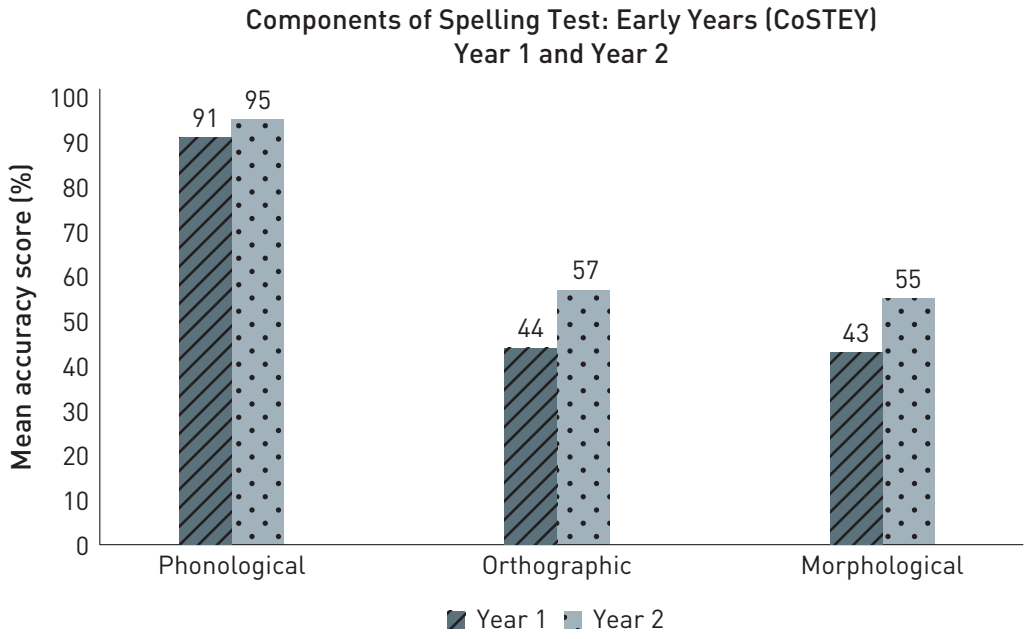


Figure 13. Mean CoSTEY accuracy scores (%) by subscale (Year 1, *n* = 331; and Year 2, *n* = 603)

Phonological applications in spelling among students in Year 1 and Year 2

Figure 14 presents a finer-grained analysis of data from students in Year 1 (*n* = 1071) and Year 2 (*n* = 1187) who completed the Phonological Component: Part A of the CoSTEY. This part of the assessment requires students to spell one-syllable words that comprise highly regular phoneme–grapheme correspondences (for example *rug, hen, gift, chest, slung, splash*). These results highlight that learning to spell the initial consonant phoneme in a one-syllable word, where the initial phoneme is represented by a single letter (or graph, such as ***t*** in *tan*), may be the easiest subskill to learn. This is reflected in the mean accuracy scores for the construct (subskill) labelled as *initial consonant graph*, ranging from 92 per cent (in Year 1) to 94 per cent (in Year 2). In contrast, accurate spelling of consonant blends (such as ***br*** in *bring*) appears particularly difficult, as reflected by the mean accuracy scores ranging from 59 per cent (in Year 1) to 72 per cent (in Year 2). In this data set, the greatest year-level differences are observed in the students' ability to spell consonant blends (such as ***mp*** in *thump*) and consonant digraphs (that is, where two letters represent one consonant phoneme, such as ***th*** in *thump*).

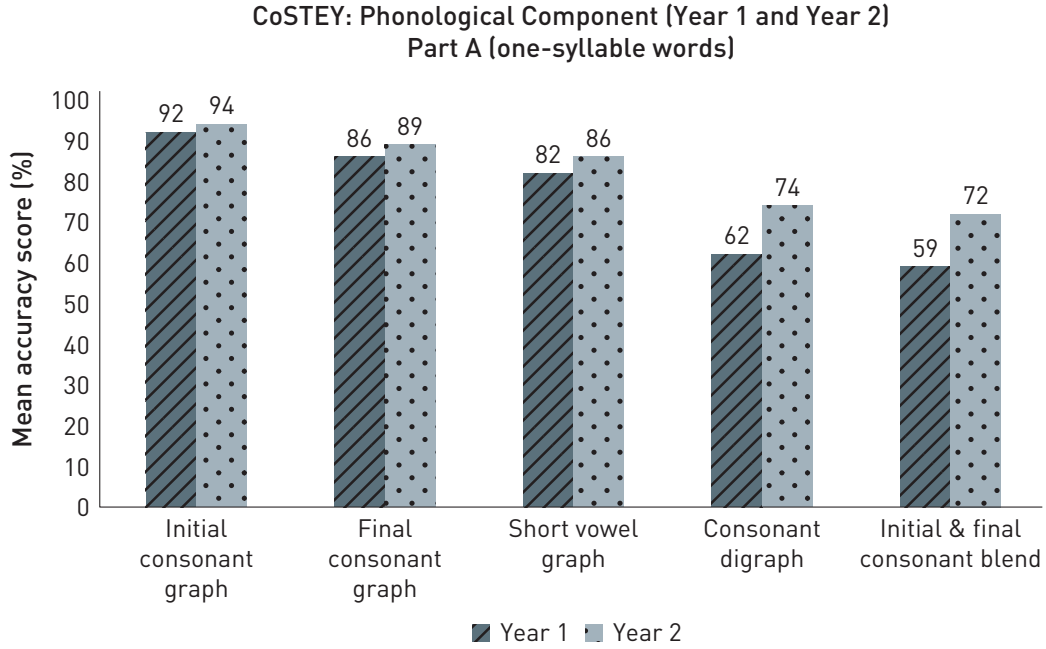


Figure 14. Mean CoSTEY subskill accuracy scores (%): Phonological Component: Part A (one-syllable words) (Year 1, *n* = 1071; Year 2, *n* = 1187)

The results shown in Figure 15 are based on data from students in Year 1 and Year 2 who performed above the mean in the Phonological Component: Part A (one-syllable words). While this sub-sample of students may have been able to spell regular one-syllable words with a comparatively high degree of accuracy, the data suggest they did not apply their phonological skills as successfully when spelling two-syllable words. It seems that this group of students experienced notable difficulty spelling simple phoneme–grapheme correspondences in the middle parts of two-syllable words (as assessed in the Phonological Component: Part B, for example ***-onst-*** in *monster* and ***-undr-*** in *hundred*). Many spelling errors resulted in phoneme omissions or substitutions in those words. This suggests that the task of spelling longer words may pose an increased cognitive load on phonological working memory, potentially influencing spelling outcomes.

Students who use the initial phonic code to spell simple one-syllable words may not necessarily apply this knowledge when spelling longer words. Where such instances arise, students may benefit from instruction that focuses on applying accurate phonological skills in the context of spelling multisyllabic words. This may include syllabifying multisyllabic words as well as segmenting and blending phonemes in those words.

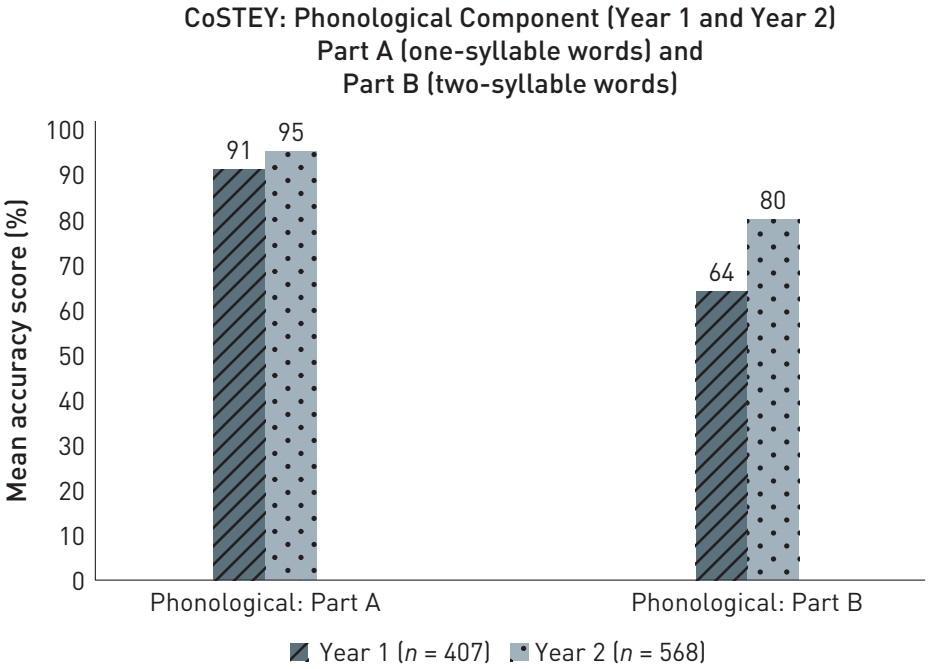


Figure 15. Mean CoSTEY Phonological Component accuracy scores: Comparison of scores in Part A (one-syllable words) and Part B (two-syllable words) for students in Year 1 (*n* = 407) and Year 2 (*n* = 568) performing above the mean in Part A

Orthographic applications in spelling among students in Year 1 and Year 2

The descriptive results illustrated in Figure 16 are based on data from all the participating students in Year 1 (*n* = 957) and Year 2 (*n* = 1081) who completed the Orthographic Component of the CoSTEY. Despite an obvious increase in scores across all measured orthographic subskills from Year 1 to Year 2, these results broadly illustrate the scope for further learning in this component of spelling beyond the early years of school. The observed performance trends across the orthographic subskills are quite similar irrespective of year level.

Individual variability in spelling skills is to be expected. While some orthographic learning can occur through exposure to print over time (Treiman, 2018a), learning to spell is largely influenced by instructional priorities and approaches (Daffern & Fleet, 2021). With this in mind, the performance trends observed in this data set should not be interpreted as an optimal instructional sequence.

For both Year 1 and Year 2, the most challenging aspect of the measured orthographic subskills involves using correct graphemes for the /or/ vowel phoneme (in words such as *f**or**m*, *w**a**ter*, *b**ough**t* and *sw**a**rm*). On the contrary, the easiest subskills for both year levels involve graphemes for the long /i/ phoneme (in words such as *tr**y***, *fl**igh**t* and *p**ie***) as well as the letter sequences in unaccented final syllables (for example in words such as *rabb**it**, socc**er*** and *bott**le***).

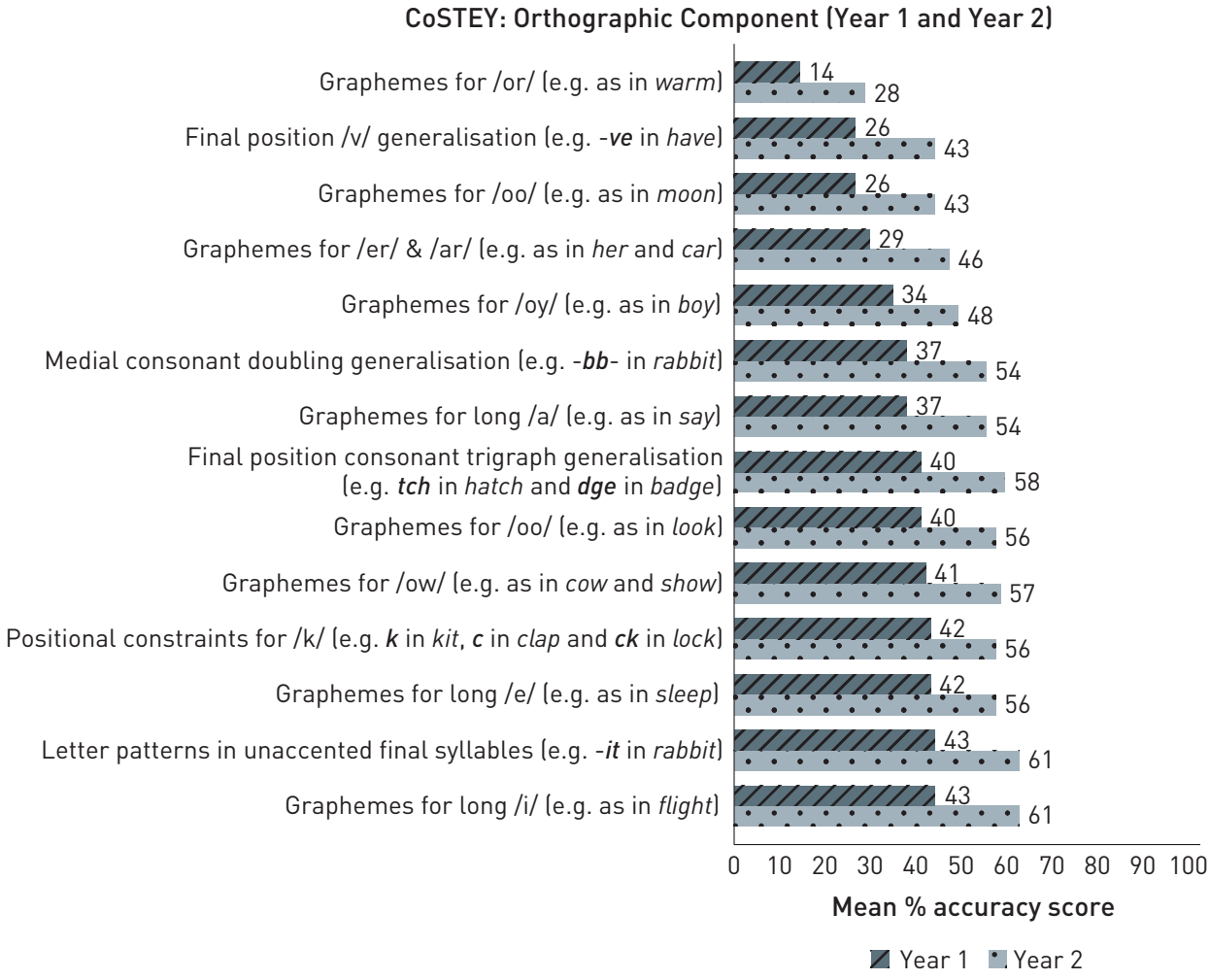


Figure 16. Mean CoSTEY Orthographic subskill accuracy scores (%) in Year 1 (*n* = 957) and Year 2 (*n* = 1081)

Morphological applications in spelling among students in Year 1 and Year 2

The results presented in Figure 17 are based on data from the students in Year 1 (*n* = 843) and Year 2 (*n* = 1026) who completed the Morphological Component of the CoSTEY. For both year levels, being able to correctly use simple prefixes (for example ***re-*** and ***un-***) appears to be the easiest aspect of morphology, as reflected by the mean accuracy score of 64 per cent in Year 1 and 77 per cent in Year 2. In Year 1, accurate use of derivational suffixes (for example ***-ful***, ***-ian***, ***-ion*** and ***-less***), as well as the comparative suffix ***-er*** and superlative suffix ***-est***, appears considerably more difficult, as reflected by the respective mean accuracy scores of 26 and 24 per cent. In Year 2, accurate use of the measured derivational suffixes, as well as comparative and superlative suffixes, appears considerably difficult, as reflected by the respective mean accuracy scores of 42 per cent for each subskill. Overall, these results suggest there is considerable scope for systematically and explicitly teaching the morphological component of spelling in the early years of primary school.

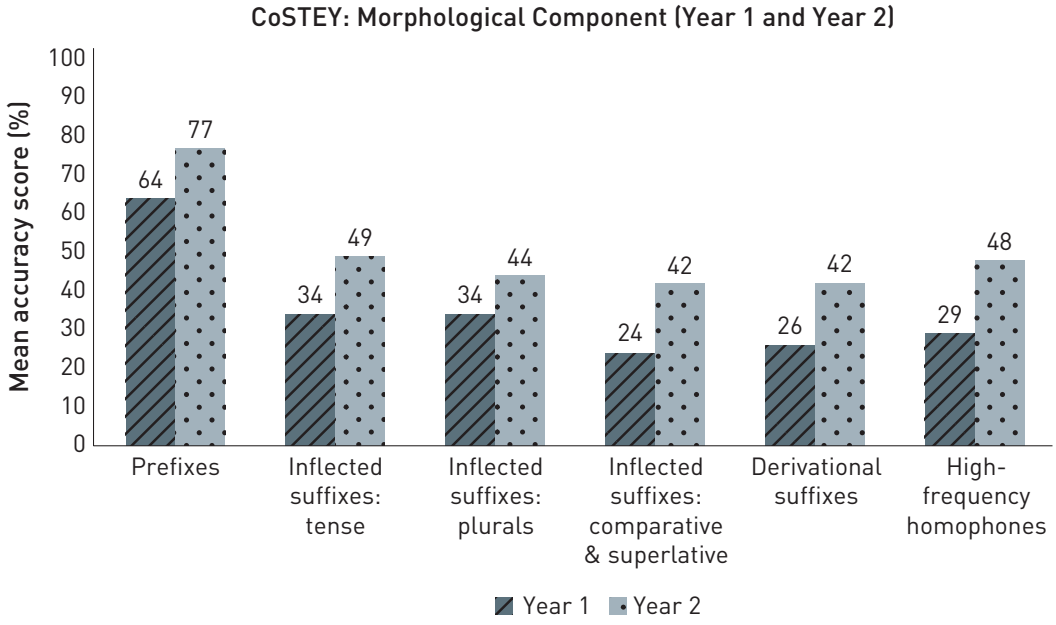


Figure 17. Mean CoSTEY Morphological subskill accuracy scores (%) in Year 1 (*n* = 843) and Year 2 (*n* = 1026)

Insights from middle and upper primary years

What follows is a snapshot of findings from a previously published study involving a broadly representative sample of Australian students (*n* = 1198) in Years 3 to 6, selected using a stratified random sampling technique (Daffern, 2017). This study utilised Triple Word Form Theory as a conceptual framework to analyse spelling skills among students in the middle and upper primary school years. Spelling performance data were drawn from the *Components of Spelling Test* (CoST): real-word version (Daffern, 2021b). Strong internal consistency results have previously been reported for the CoST, with Cronbach's alphas ranging from .78 to .94 (Daffern et al., 2015). The CoST requires students to write 70 words to dictation and provides scope for an error analysis of 101 individual items across three subscales: the Phonological Component, the Orthographic Component, and the Morphological Component.

As shown in Figure 18, the mean accuracy scores increase from Year 3 to Year 6 for all three spelling components, albeit to varying degrees. While minimal increase in the phonological component score is observed between Year 3 and Year 5, considerable increase is evident between Year 5 and Year 6. These results also indicate that the morphological component is comparatively weak, even though the mean score substantially increases at each year level, particularly between Year 5 and Year 6. The results also highlight that students performing at the mean for each component are completing primary schooling without having mastered these components of spelling.

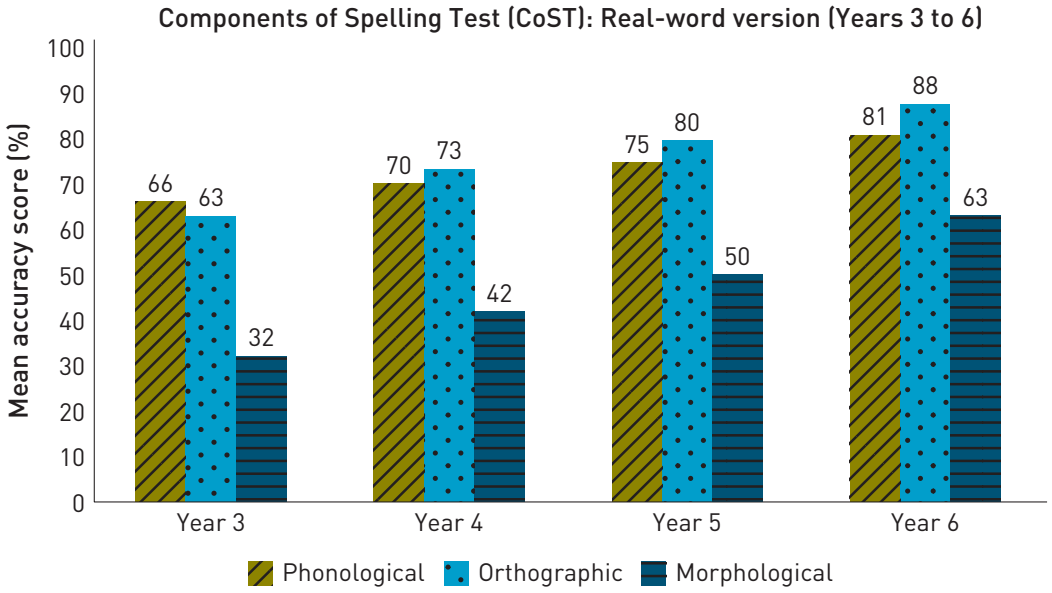


Figure 18. Mean CoST accuracy scores (%) in Year 3 (*n* = 323), Year 4 (*n* = 323), Year 5 (*n* = 281) and Year 6 (*n* = 271)

Phonological applications in spelling among students in Years 3 to 6

Figure 19 reveals a finer-grained analysis of performance in the phonological component of the CoST: real-word version. It shows that students performing at the mean in Years 3 to 6 can spell regular initial and final consonants, short vowel graphs and consonant digraphs in one-syllable words with high levels of accuracy. However, they experience significant difficulty spelling the medial parts of polysyllabic words that contain regular phoneme–grapheme correspondences (for example ***-oct-*** in the word *doctor* and ***-ubstan-*** in the word *substantial*). This observation parallels the CoSTEY data observed in Year 1 and in Year 2 (see Figure 15). It seems that an increased demand on phonological working memory occurs when spelling longer words.

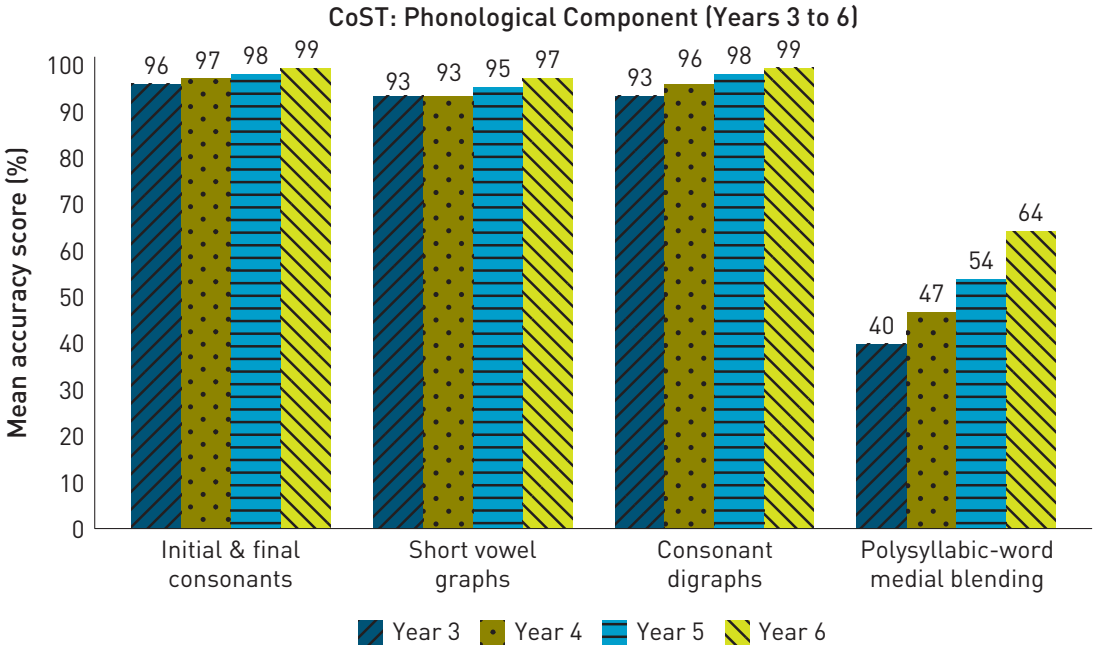


Figure 19. Mean CoST: Phonological Component subscale accuracy scores (%) in Year 3 to Year 6

Orthographic applications in spelling among students in Years 3 to 6

Figure 20 presents a summary of the mean orthographic subskill scores as measured by the CoST: real-word version. These results suggest that students' knowledge of when to double the syllable juncture consonant in words such as *bo**tt**le* and *ri**pp**le* may develop with relative ease. This is also the case when spelling certain long vowel phonemes, labelled as 'ambiguous vowels' in the CoST (for example the diphthong /oy/ in the word *b**oi**l* and the r-influenced vowel /ar/ in the word *m**ar**ched*). However, knowing how to spell the unaccented final syllable in a two-syllable word (for example the ***-el*** in the word *tunnel*) appears more challenging.

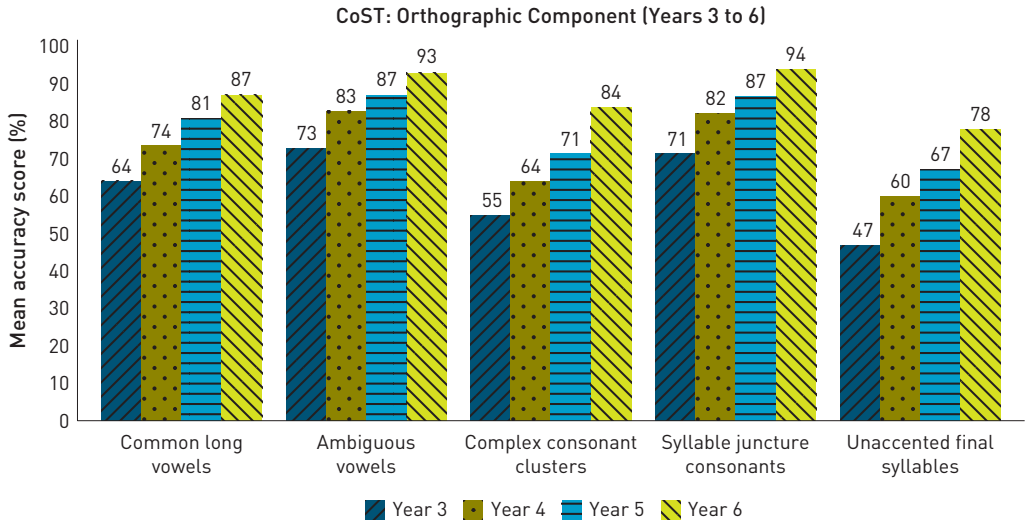


Figure 20. Mean CoST: Orthographic Component subscale accuracy scores (%) in Year 3 to Year 6

Morphological applications in spelling among students in Years 3 to 6

Figure 21 illustrates the mean morphological subskill scores as measured by the CoST: real-word version. These results show that inflected suffixes (for example the tense-marking suffix -***ed*** in the word *smudged*) are easier for students to grasp than derivational suffixes (for example ***-ion*** in the word *opposition*). This is consistent with other research demonstrating that inflected suffixes are acquired before derivational suffixes (see, for example, Daffern & Ramful, 2020; Deacon et al., 2014). The spelling of homophones is the least developed subskill of morphology (for example *serial/cereal*). Another challenging area includes the spelling of bound morphemes that derive from Greek or Latin (for example ***medic*** in the word *medicinal*). Many of these students are also yet to learn how to spell morpheme-juncture schwa vowels. For example, students need to learn why the medial letter ***o*** is used to represent the schwa (reduced vowel sound) in the word *opp**o**sition*. Assimilated prefixes (in words such as *irrelevant* and *annotate*) are also very challenging for these students and equally deserve instructional attention.

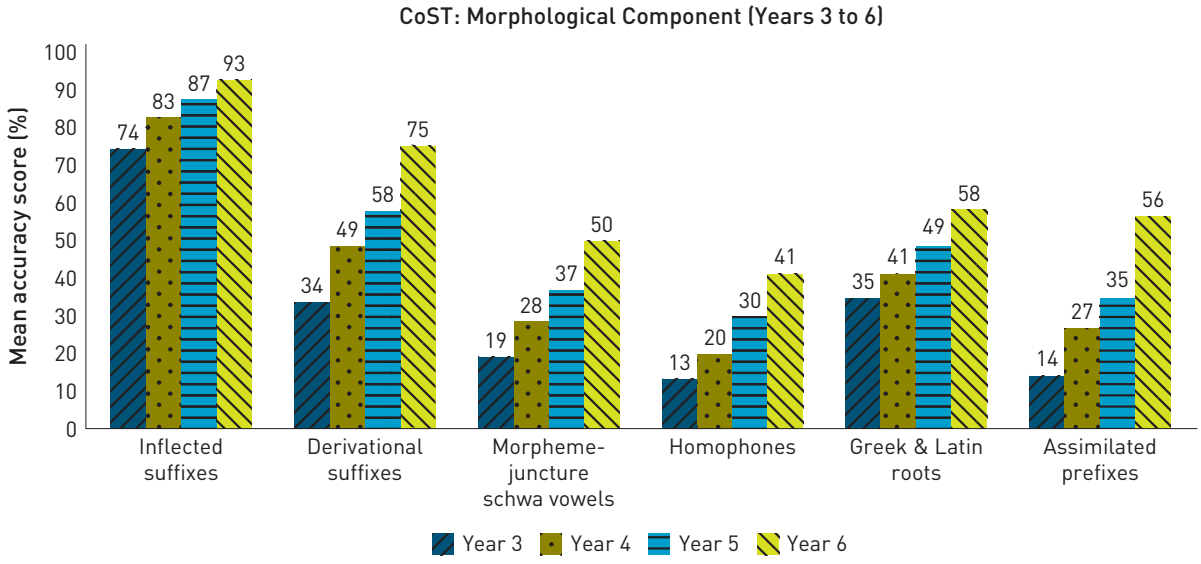


Figure 21. Mean CoST: Morphological Component subscale accuracy scores (%) in Year 3 to Year 6

IMPLICATIONS FOR TEACHING SPELLING

The teaching of spelling across many Australian school contexts requires greater attention, particularly in the secondary school years. For students completing primary school and for those transitioning through the secondary years of school, the expectations mandated in the Australian Curriculum: English (ACARA, 2021a) in the domain of spelling are high (see Table 1). However, assessment data consistently indicate that many students are not meeting these curriculum expectations. Teachers may need to dedicate increased quality instructional time to spelling if the goal is to improve students' spelling. Quality instruction in spelling may also enable students to expand their vocabulary knowledge and improve their reading and compositional writing skills. Specifically, research has shown that targeted and explicit spelling instruction can provide a pathway for improving spelling outcomes (Berninger & Amtmann, 2003; Daffern & Fleet, 2021; Galuschka et al., 2020; Graham et al., 2002; Graham & Santangelo, 2014). It can also support reading and writing skills more broadly (Graham et al., 2002; Graham & Hebert, 2011; Puranik & Al-Otaiba, 2012). However, given the complex craft of teaching spelling (Daffern & Mackenzie, 2020), teachers may also require better support through professional learning so that student performance outcomes in spelling can be improved.

Table 1. Australian Curriculum (AC): English Content Descriptors on spelling (Years 6 to 10)

Year level	AC: English Curriculum Content Descriptors	
Year 6	ACELA1526	Understand how to use knowledge of known words, word origins including some Latin and Greek roots, base words, prefixes, suffixes, letter patterns and spelling generalisations to spell new words including technical words
	ACELA1830	Understand how to use phonic knowledge and accumulated understandings about blending, letter-sound relationships, common and uncommon letter patterns and phonic generalisations to read and write increasingly complex words
Year 7	ACELA1539	Understand how to use spelling rules and word origins, for example Greek and Latin roots, base words, suffixes, prefixes, spelling patterns and generalisations to learn new words and how to spell them
Year 8	ACELA1549	Understand how to apply learned knowledge consistently in order to spell accurately and to learn new words including nominalisations
Year 9	ACELA1562	Understand how spelling is used creatively in texts for particular effects, for example characterisation and humour and to represent accents and styles of speech
Year 10	ACELA1573	Understand how to use knowledge of the spelling system to spell unusual and technical words accurately, for example those based on uncommon Greek and Latin roots

A targeted approach to teaching spelling can occur if systematic spelling error analyses are used to inform instructional priorities, to monitor progress over time, and to refine instruction in response to the feedback that the data provide (Daffern & Fleet, 2021). The CoSTEY and the CoST are two examples of statistically reliable and standardised spelling error analysis measures that serve such purpose, informed by Triple Word Form Theory (Daffern, 2021a; Daffern, 2021b).

Explicit teaching requires the teacher to:

- draw on assessment data to decide on the learning intentions and success criteria
- ensure students understand expectations
- model and scaffold skills
- demonstrate thinking aloud
- check for understanding
- retell key concepts that have been taught at the closure of each teaching episode.

In the context of spelling, explicit teaching also requires the teacher to use metalanguage, explain spelling generalisations and rules, and offer timely and corrective feedback to the students (Daffern, 2016; Daffern & Fleet, 2021; Daffern & Sassu, 2020; Hattie, 2009; Robinson-Kooi & Hammond, 2020a).

Effective learning in spelling can occur through increased amounts of explicit instruction (Graham & Santangelo, 2014). Findings from a recent quasi-experimental study involving students in Years 3 to 6 suggest that explicitly teaching spelling at least three times each week, for 20 to 30 minutes each lesson, can be effective (Daffern & Fleet, 2021). Following this approach, a multi-tiered structure that includes the teaching of phonology, orthography and morphology each week can help students to develop these component spelling skills concurrently rather than one after the other. Teaching spelling and vocabulary can also happen in parallel (see Table 2). While phonological instruction in the early years is particularly important, teachers should not wait until students have mastered their phonological skills before introducing orthographic and morphological applications in spelling. Young students will learn these skills if this is what they are taught.

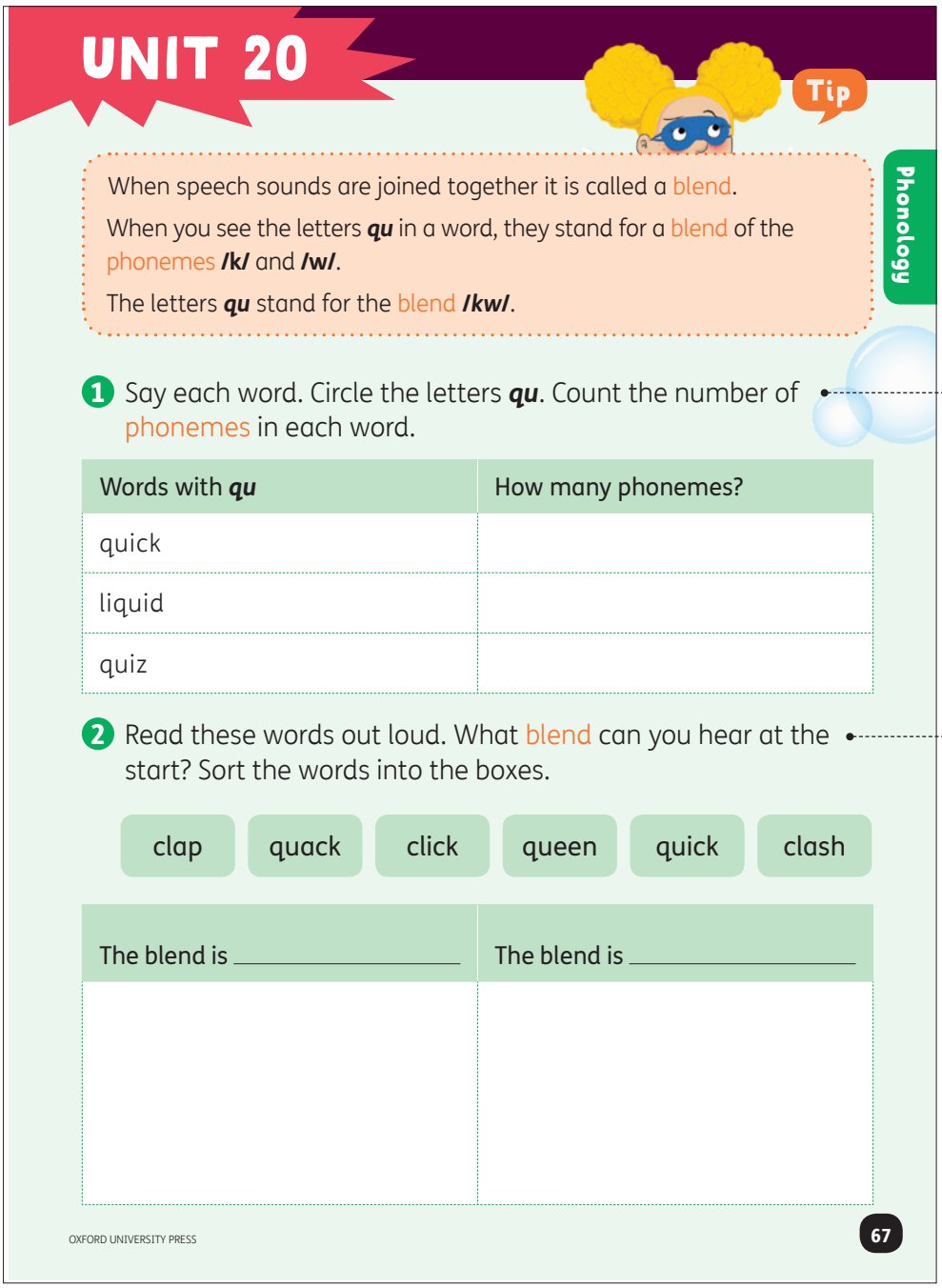
Table 2. Teaching spelling and vocabulary in parallel

A multi-tiered structure for teaching spelling	
Phonology	In primary school years, teach students to refine their phonological processes when spelling a range of words: • Begin with one-syllable words from students' oral vocabulary • Progress to technical and less familiar words, including polysyllabic words. In secondary school years: • continue to model and check that students are accurately applying phonological skills when spelling complex polysyllabic words.
Orthography	• Provide regular and varied opportunities for students to learn how a phoneme can be represented using different graphemes. • Explain how the spelling of a phoneme can sometimes depend on its position within a word. • Include ample opportunity for students to apply their learning across various handwritten contexts. • Reinforce taught graphemes by highlighting these in words that are located in age-appropriate texts.
Morphology	• Teach the many rules on how to treat base words when adding suffixes or prefixes. • Teach inflected suffixes before teaching derivational suffixes. • Support vocabulary learning by expanding knowledge of root words and homophones. • Provide ample opportunity for students to consolidate and apply new spelling skills in a range of writing contexts, including dictation tasks, to support committing learning to long-term memory.

TIPS FOR TEACHING SPELLING IN THE CLASSROOM

A focus on phonology

These sample activities from *Oxford Spelling* focus on phonology.



UNIT 20

Tip

When speech sounds are joined together it is called a blend.

When you see the letters **qu** in a word, they stand for a blend of the phonemes **/k/** and **/w/**.

The letters **qu** stand for the blend **/kw/**.

Phonology

1 Say each word. Circle the letters **qu**. Count the number of phonemes in each word.

Words with **qu**	How many phonemes?
quick	
liquid	
quiz	

2 Read these words out loud. What blend can you hear at the start? Sort the words into the boxes.

clap quack click queen quick clash

The blend is _____	The blend is _____

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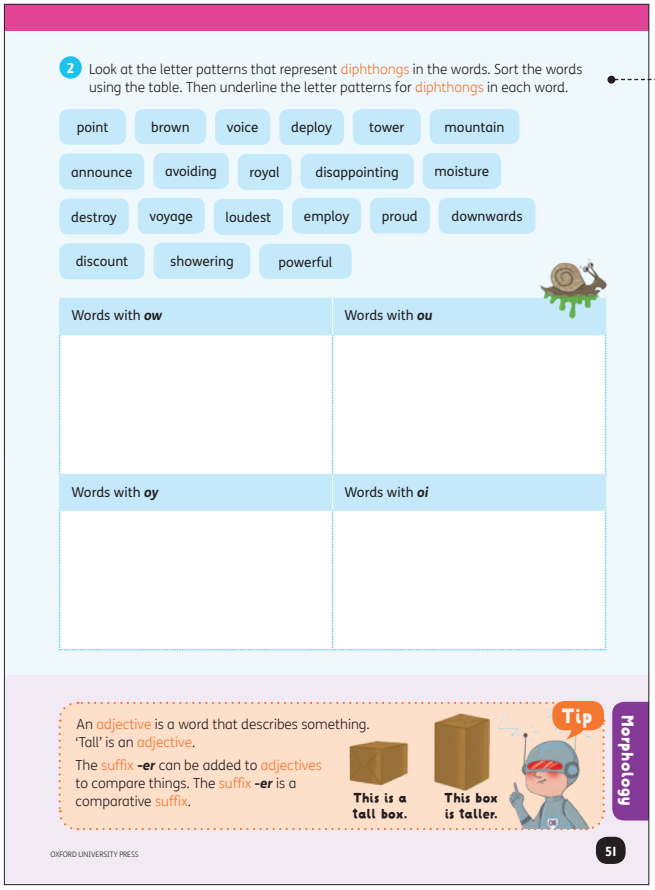
This activity enables students to focus on phoneme identification while practising an initial consonant blend, /kw/ as in *queen*.

This activity enables students to differentiate between two consonant blends, /kw/ as in *queen* and /cl/ as in *clean*.

Foundation, Unit 20, Activities P1 & P2

A focus on orthography

These sample activities from *Oxford Spelling* focus on orthography.



2 Look at the letter patterns that represent diphthongs in the words. Sort the words using the table. Then underline the letter patterns for diphthongs in each word.

point | brown | voice | deploy | tower | mountain
announce | avoiding | royal | disappointing | moisture
destroy | voyage | loudest | employ | proud | downwards
discount | showering | powerful

Words with *ow*	Words with *ou*

Words with *oy*	Words with *oi*

Tip

An adjective is a word that describes something.
'Tall' is an adjective.
The suffix *-er* can be added to adjectives to compare things. The suffix *-er* is a comparative suffix.

This is a tall box. This box is taller.

Morphology

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This activity focuses on the positional constraints for words with the /ow/ diphthong as in *cow* and the /oy/ diphthong as in *boy*.

Year 4, Unit 13, Activity 02

1 There are many ways to spell the */k/* phoneme. Find the letter patterns that spell the */k/* phoneme in the words. Sort the words using the table.

colour | koala | chopsticks | technology | plaque | silk
athletics | magical | pumpkin | echidna | opaque | kilometre
chameleon | attack | antique | chaos | musical | boutique
fantastic | humpback | kidney | bucket | psychology

c	
k	
que	
ck	
ch	

2 Choose three words from the list in the last activity that you don't write very often. Write a definition for each one.

Word	Definition

Orthography

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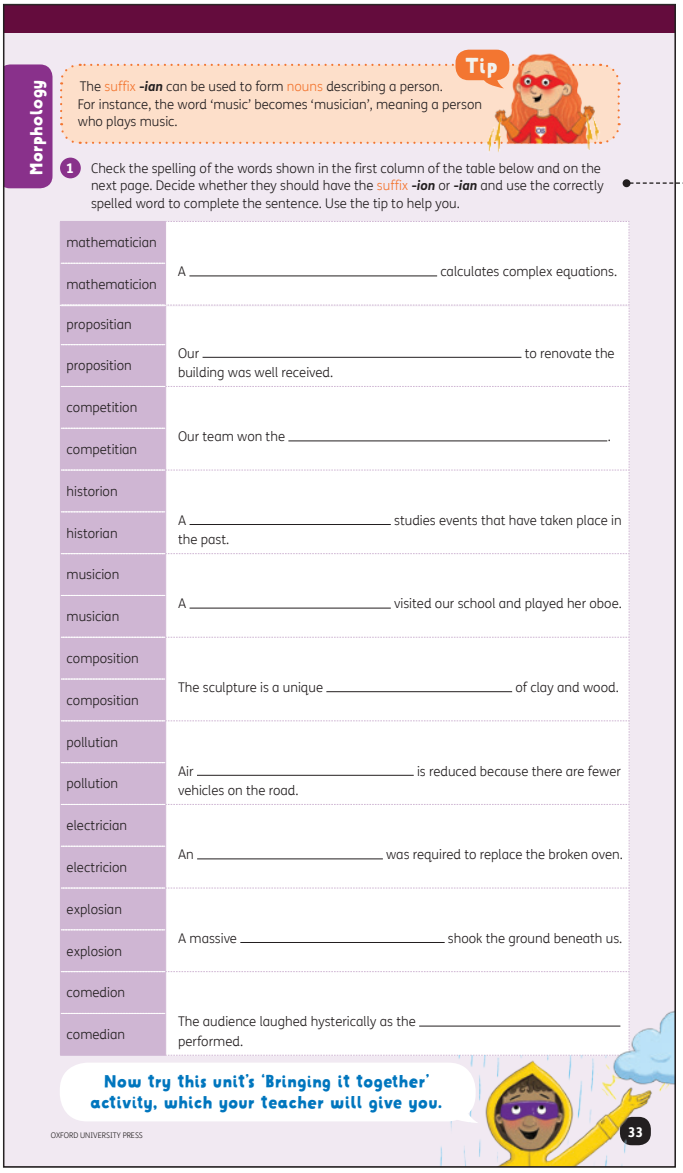
These activities focus on the positional constraints for words with the /k/ phoneme, as well as highlighting the importance of using metalanguage when explicitly teaching.

Year 4, Unit 16, Activities 01 & 02

A focus on morphology

These sample activities from *Oxford Spelling* focus on morphology.



Morphology

Tip

The suffix ***-ian*** can be used to form nouns describing a person. For instance, the word 'music' becomes 'musician', meaning a person who plays music.

1 Check the spelling of the words shown in the first column of the table below and on the next page. Decide whether they should have the suffix ***-ion*** or ***-ian*** and use the correctly spelled word to complete the sentence. Use the tip to help you.

mathematician mathematicion	A _____ calculates complex equations.
propositian proposition	Our _____ to renovate the building was well received.
competition competitian	Our team won the _____.
historion historian	A _____ studies events that have taken place in the past.
musicion musician	A _____ visited our school and played her oboe.
composition compositian	The sculpture is a unique _____ of clay and wood.
pollutian pollution	Air _____ is reduced because there are fewer vehicles on the road.
electrician electricion	An _____ was required to replace the broken oven.
explosian explosion	A massive _____ shook the ground beneath us.
comedion comedian	The audience laughed hysterically as the _____ performed.

Now try this unit's 'Bringing it together' activity, which your teacher will give you.

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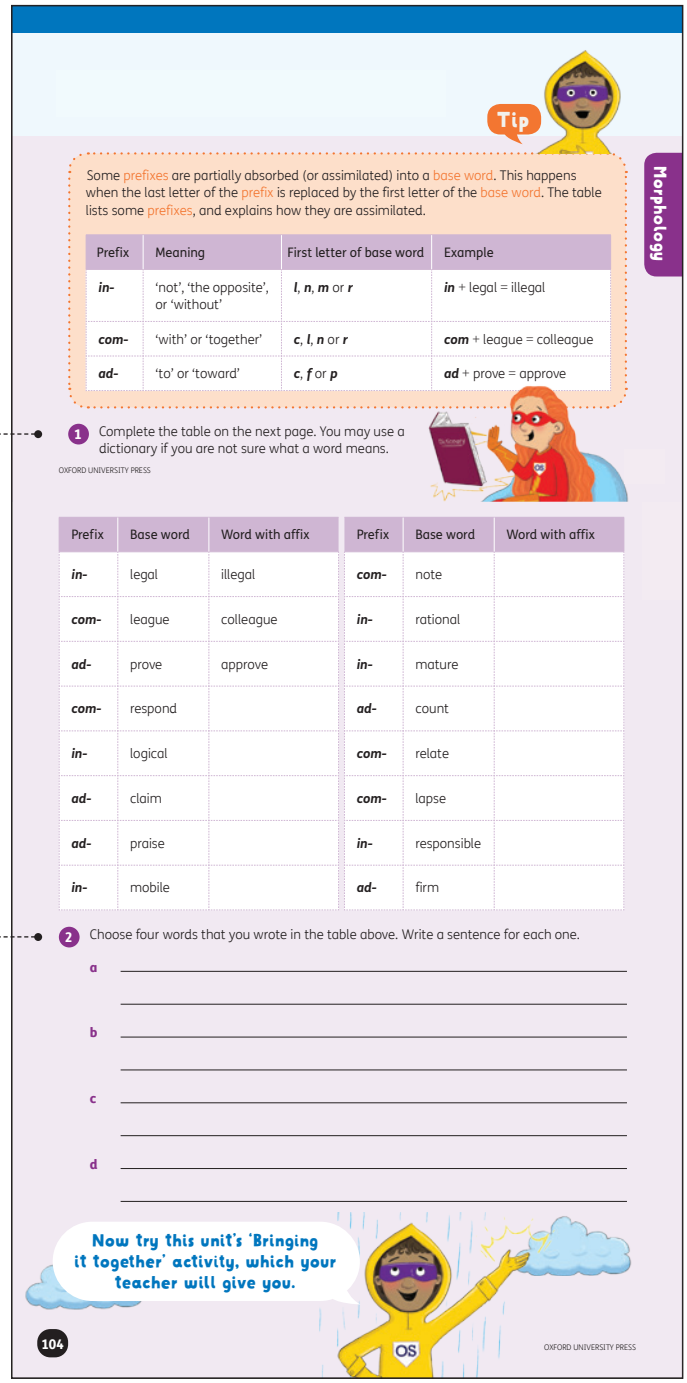
This activity focuses on the derivational suffixes ***-ion*** and ***-ian***.

Year 6, Unit 8, Activity M1



Tip

Morphology

Some prefixes are partially absorbed (or assimilated) into a base word. This happens when the last letter of the prefix is replaced by the first letter of the base word. The table lists some prefixes, and explains how they are assimilated.

Prefix	Meaning	First letter of base word	Example
in-	'not', 'the opposite', or 'without'	***l***, ***n***, ***m*** or ***r***	***in*** + legal = illegal
com-	'with' or 'together'	***c***, ***l***, ***n*** or ***r***	***com*** + league = colleague
ad-	'to' or 'toward'	***c***, ***f*** or ***p***	***ad*** + prove = approve

1 Complete the table on the next page. You may use a dictionary if you are not sure what a word means.

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Prefix	Base word	Word with affix	Prefix	Base word	Word with affix
in-	legal	illegal	***com-***	note	
com-	league	colleague	***in-***	rational	
ad-	prove	approve	***in-***	mature	
com-	respond		***ad-***	count	
in-	logical		***com-***	relate	
ad-	claim		***com-***	lapse	
ad-	praise		***in-***	responsible	
in-	mobile		***ad-***	firm	

2 Choose four words that you wrote in the table above. Write a sentence for each one.

a _____

b _____

c _____

d _____

Now try this unit's 'Bringing it together' activity, which your teacher will give you.

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These activities focus on assimilated prefixes.

Year 6, Unit 27, Activities M1 and M2

LINKING RESEARCH TO CLASSROOM PRACTICE

An extract from *Oxford Spelling: Teacher Handbook F–2*, pp. 4–5.

Research into triple word form theory suggests that student outcomes in spelling can be enhanced if students are afforded opportunities to learn about the phonological, orthographic and morphological structures of words conjointly rather than sequentially (Daffern et al., 2020; Robinson-Kooi & Hammond, 2020a). *Oxford Spelling* student books are structured to ensure students can learn to apply phonological, orthographic and morphological skills on a regular basis and in a range of contexts.

Teaching phonological skills to support spelling development

Phonemic awareness entails the insight that each spoken word contains a sequence of phonemes and the ability to manipulate phonemes in words (Rose, 2006). Research suggests that it is best taught in conjunction with the teaching of the alphabet letter names and how to write them. In *Oxford Spelling*, *Student Book F* begins with building knowledge of how the sounds in spoken words are represented by printed alphabet letters.

Teaching the relationship between phonemes and alphabet letters (otherwise known as 'phonics') is effective in supporting spelling development, particularly in the early years of school (Ehri et al., 2012). In the *Oxford Spelling* Foundation to Year 2 student books, students can develop their phonemic awareness while learning to distinguish between a letter name and a sound. Simultaneously, students working at the Foundation level can start building their knowledge of words through a range of orthographic and morphological activities. *Oxford Spelling* is structured so that students begin to learn the structures of highly regular one-syllable words comprised of consonant-vowel-consonant (CVC) letters through to phonologically complex words.

Teaching orthographic skills to support spelling development

Phonics instruction alone is insufficient for supporting student learning in spelling. Students should also be taught to think about and use 'graphotactic patterns, those pertaining to the order and organisation of letters in words' (Treiman, 2018b, p. 236). For example, students can be taught that English words ending in the phoneme ***/v/*** don't typically end with the letter ***v*** but rather ***ve*** (as in 'have', 'give' and 'dove'). Orthographic knowledge also entails knowing whether a word looks correct and why (for example, 'bright' is correct but 'brihgt' or 'brite' are not, due to the incorrect letter patterns for the vowel phoneme). This insight can also apply to words that are personally important to a student, such as their own written name. While students can develop some orthographic sensitivity through repetition, immersion or exposure to texts over time, it can be developed more rapidly if it is explicitly and systematically taught (Treiman, 2018a, 2018b).

Oxford Spelling offers cyclic opportunities for students to practise, consolidate and expand their orthographic skills over time. For example, students can revisit content such as common long vowels to apply increasingly complex orthographic codes to new vocabulary containing long vowel phonemes. These orthographic activities aim to help students build their sensitivity to within-word letter patterns and their graphotactic knowledge. Many word searches, dictionary and alphabetisation activities are included to develop students' sensitivity to the sequences of letter patterns within words, including left-to-right directionality of print. Tasks are also varied to include word-detective activities (using literary texts), word-sorting tasks, cloze sentences, proofreading and editing tasks, as well as look-say-cover-write-check activities, to keep students engaged and promote the generalisation of their knowledge across a broad range of words and contexts.

Teaching morphological skills to support spelling development

Students can start learning about morphemic structures in words even if they have not yet mastered other components of spelling. For example, as soon as students can read and write a small number of CVC words, such as 'pan', 'pin', 'sat' and 'sit', their emerging phonic knowledge can be developed in conjunction with morphology (Daffern, 2018b). They can be taught that the letter ***s*** can be added to the end of some words to form plural nouns (for example, 'pans', 'pins' and 'tins'). Also, quite early in the development of reading and writing, students can start to learn how a compound word (for example, 'weekend') comprises two free morphemes that make a new word, or that some words sound the same but have a different meaning and spelling (for example, the homophone pair 'I' and 'eye'). Indeed, *Oxford Wordlist* research (2017) has identified that many of these words frequently appear in young children's writing.

Oxford Spelling is structured to ensure students have regular opportunities to learn about morphology from Foundation to Year 6. The series equips teachers to explicitly teach rules relating to the use of affixes (prefixes and suffixes). The morphological content is sequenced throughout the series so that students can learn increasingly complex rules over time. In doing so, students can also make connections with grammatical concepts and metalanguage. For example, inflected suffixes for nouns and verbs (such as those marking plurality and tense) are introduced before most derivational suffixes (such as those applying to abstract nouns and adverbs), in line with research indicating that inflected suffixes are generally easier to grasp than derivational suffixes (Daffern, 2017).

Using metalanguage and other strategies to teach spelling

Explicit teaching is an evidence-based practice and, in the context of spelling, it requires the use of metalanguage and timely and corrective feedback to students (Daffern, 2016; Daffern & Sassu, 2020; Hattie, 2009; Robinson-Kooi & Hammond, 2020a). The lesson plans highlight appropriate opportunities to use metalanguage, while key metalanguage terms are listed in 'Vocabulary you need to know' (page 15).

Other explicit teaching strategies for spelling include 'scaffolding, thinking aloud, and modelling' (Robinson-Kooi & Hammond, 2020b, p. 83). It is crucial that teachers using *Oxford Spelling* provide such cognitive support; lesson plans highlight some key opportunities to do so. The teacher handbooks provide information that can help teachers explain the linguistic properties of words and the many spelling rules and generalisations that apply to standard English.

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